

Ch 9.1

Adding and Subtracting Polynomials

+ Finding The Degree of a Monomial

- A ***monomial*** is a #, variable or product of #'s & variables.

Examples: c 8 not a mono b/c
4, xy, -6x², 2, x variable in denom.

- The ***degree*** of a monomial is the sum of the exponents of its variables.

Examples: Find degree

1. $7x = 7x^1$ so **1**

2. $12x^6y^3 = 9$

3. $-15 = 0$ (no variable so no degree)

+ Classifying Polynomials

- A polynomial is a monomial or the sum or diff of 2 or more monos.

$$5x^2 + 3x^6 - 4x + 12$$

- Write in standard form w/ degrees of monos in decreasing order.

$$3x^6 + 5x^2 - 4x + 12 \quad * \text{Degree is 6}$$

*The degree of a poly is the mono with the greatest exponent.

Classify polys. by the degree & # of terms

Poly	Degree	Name using Degree	# Terms	Name using Terms
$4x + 8$	1	linear	2	Binomial
$6x^2 + 9x + 1$	2	quadratic	3	Trinomial
$7x^3$	3	cubic	1	Monomial
$10x^4 - 3x^2$	4	4 th degree	2	Binomial
16	0	constant	1	Monomial

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Try some

Find the degree:

1. $6c^2$

2. $3xy^3$

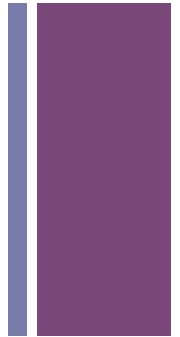
3. 18

Write in Standard Form and Name each Poly.

4. $-2 + 7x$

5. $6x^2 + 7 - 9x^4$

6. $3x^5 - 2 - 2x^5 + 7x$



+ Adding & Subtracting Polynomials

- 1st- make sure simplified & in standard form
- To add polys, add the coefficients of like terms.
- To subtract polys. change all the signs of the 2nd poly & then add the like terms.

Examples:

1. $(2p^3 + 6p^2 + 10p) + (9p^3 + 11p^2 + 3p) =$

$$11p^3 + 17p^2 + 13p$$

2. $(v^3 + 6v^2 - v) - (9v^3 - 7v^2 + 3v)$

$$v^3 + 6v^2 - v + (-9v^3) + 7v^2 - 3v =$$

$$-8v^3 + 13v^2 - 4v$$

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Try Some

Simplify each poly.

1. $(12m^2+4) + (8m^2+5)$ 2. $(30d^3-29d^2-3d) - (2d^3+d^2)$

3. $(6x^2+3x+7) + (2x^2-6x-4)$ 4. $(2x^3+4x^2-6) - (5x^3+2x-2)$

5. $(4x^2+5x+1) - (6x^2 + x + 8)$